(b) if so, the details thereof; and

(c) by when, it will be inducted into the armed forces?

THE MINISTER OF DEFENCE (SHRI GEORGE FERNANDES): (a) and (b) Yes, Sir. India and Russia have undertaken design and development of most advanced supersonic cruise missile 'BRAHMOS' under a Joint Venture company.

(c) The first flight test took place on 12th June, 2001 and another successful flight was conducted on 28th April, 2002. The development flight trials will be further progressed in 2002 and 2003. The production will commence by end of 2003 for induction in 2004.

MIG-21 Aircrash in Jodhpur, Rajasthan

4395. SHRI RUMANDLA RAMACHANDRAIAH: Will the Minister of DEFENCE be pleased to state:

(a) whether it is a fact that an Indian Air Force MIG-21 aircraft crashed on 13th December, 2001 shortly before landing at a forward airbase, 70 km. from Jodhpur, Rajasthan;

(b) if so, whether inspite of giving assurances, number of MIG-21 crashes have taken place during December, 2001 to January, 2002;

(c) if so, what are the main reasons for air crash of MIG-21;

(d) whether any inquiry has been conducted; and

(e) if so, what are the steps Government propose to take to prevent the MIG-21 air crashes which are taking place on a considerable rate for several years?

THE MINISTER OF DEFENCE (SHRI GEORGE FERNANDES): (a) Yes, Sir.

(b) During the months of December, 2001 and January, 2002 only one MIG-21 aircraft accident took place.

(c) Human Error (HE), Technical Defect (TD) and Bird Hit (B.H.) have been identified as the main causes of accidents by various Courts of Inquiry.

(d) A Court of Inquiry has been completed on the MIG-21 accident at Uttarlai. The accident was caused due to Technical Defect in which the engine flamed out in the air.

(e) Several measures are being taken by the Government to reduce these accidents on a continuous basis in order to bring down the accident rates under all categories by formulation of Accident Prevention Programme, Environment Cleanliness, Bird Hazard control, conduct of Studies on Human Error and Technical Defects and interaction with Hindustan Aeronautics Limited/ Original Equipment Manufacturers.

Development of Naval Variant of LCA with the US Cooperation

4396. SHRI RAMA MUNI REDDY SIRIGIREDDY: Will the Minister of DEFENCE be pleased to state:

(a) whether it is a fact that Government of India has sought cooperation from the US in the development of Naval Variant of LCA;

(b) if so, the details thereof;

(c) whether India sought cooperation in any other field; and

(d) if so, the details thereof?

THE MINISTER OF DEFENCE (SHRI GEORGE FERNANDES): (a) No, Sir.

(b) Does not arise.

(c) and (d) Yes, Sir. There was a contract with US firm on the development of a few sub-systems of LCA.

Retirement of Air Marshals in IAF

4397. SHRI KARTAR SINGH DUGGAL: Will the Minister of DEFENCE be pleased to state:

(a) whether it is a fact that IAF has retired four of its air marshals during last one year;